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ABSTRACT

Various methods are disclosed for measuring continuity and discontinuity of a seismic data set. One method embodiment comprises includes: a) detecting seismic energy with an array of detectors; b) converting detection signals from the array of detectors into data representing one or more attributes as a function of position for subsurface formations; c) systematically obtaining subsets of the data as vector sets; and d) for each vector set: (1) combining vectors from the vector set to determine a representative vector for the vector set; and (2) calculating a continuity or discontinuity measurement with respect to the representative vector. In various embodiments, the continuity or discontinuity measurement may be expressible as a fraction of vector set energy derived from vector components aligned with or deviating from the representative vector.